

### **REMARKS**

Claims 1-32 are pending. With this amendment, claims 2-11, 14-21 and 27-28 are original, claims 1, 12-13, 22 and 31-32 are previously presented, and claims 23-26 and 29-30 are cancelled.

- I. Claims 1-3, 5, 10-16, 20, 21, 22, 27, 28, 31 and 32 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,275,600 to Allard et al., in view of U.S. Patent No. 5,620,444 to Assaker, in view of U.S. Patent No. 4,274,401 to Miskew.**

The Examiner is combining the Allard, Assaker and Miskew references together in rejecting independent claims 1, 13 and 22, and many of their dependent claims. Applicant respectfully traverses. In the present Office Action, the Examiner seeks to modify the Allard device in view of the Assaker and Miskew devices. The Examiner appears to be maintaining his reliance on the Assaker reference as disclosing the “ridge” element of independent claim 1, and appears to be reaching to the Miskew reference to satisfy the features of independent claims 13 and 22 directed to the overlapping and intersecting curves in first and second oblique directions. As Applicant has explained in previous responses, Assaker does not disclose, teach or suggest the ridge and/or curved surfaces as claimed, and further explicitly teaches away from such a design. The remarks from prior responses are not repeated in full for the sake of brevity, but they are not moot with regard to the Examiner’s positions, and so they are incorporated herein by reference. Reconsideration of Applicant’s prior responses is respectfully requested.

Regarding the Miskew reference, the Examiner points to Miskew’s knife edge 78 illustrated in Figs. 5 and 6. However, the curve of the knife edge 78 appears to be aligned or concentric with the overall curve of the hook 74. As such, Miskew’s curves do not intersect, and

they certainly are not oblique to each other. The curves do not cut across each other, which is the plain meaning of “intersect.” Based on at least the reasons given above and those discussed in Applicant’s previous submissions, Applicant respectfully asserts that independent claims 1, 13 and 22 and their dependent claims are patentable over the Allard / Assaker / Miskew combination at least because of the failure of the references to satisfy those features of the claims.

The Examiner’s asserted reason for combining the Assaker and Miskew devices with the Allard device is to “enable the device to achieve more secure hooking.” (Final Office Action, pg. 6). The Examiner directs the Applicant to col. 6, ll. 35-38, but does not provide which patent the Examiner is referencing. It appears that the Examiner is referencing the Miskew disclosure. At that location, Miskew discusses its hooks optionally including a knife edge inside the hook to achieve more secure hooking to the individual vertebra. Regarding its securement capabilities, Allard states that the particulars on clamping to the spinal rod are not discussed because “[s]uch devices are known in the industry and having no bearing on the novelty” of Allard’s invention. (Allard, col. 2, ll. 42-48). Accordingly, Applicant respectfully asserts that adding any additional components to Allard’s hook, such as Assaker’s region 21 and/or Miskew’s knife edge 78, would not occur to one skilled in the art because Allard teaches reliance on then-existing features, and its device sufficiently and adequately secures to spinal rods without the need for additional components. Respectfully, the Allard reference makes clear that the Examiner’s asserted reason for combining is simply not applicable to its disclosure. Further, Allard’s statements lead the person of ordinary skill toward existing clamping technology, and away from additional structure. When a reference leads one of ordinary skill “in a direction divergent from the path that was taken by the applicant,” obviousness over that reference cannot follow. *Tec Air, Inc. v.*

*Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360, 52 USPQ2d 1294, 1298 (Fed. Cir. 1999). It would be unmistakable to one skilled in the art that the securement capabilities of the Allard device preclude the necessity of the Assaker and Miskew features to provide any additional securement.

Further, the Assaker and Miskew devices are designed for securing to vertebrae, not spinal rods as with the Allard device. The person of ordinary skill in the art recognizes that such engagements are not interchangeable. Applicant respectfully asserts that it would not be obvious to one of ordinary skill in the art to modify a device for grasping uniform, cylindrical spinal rods based on devices for grasping irregular vertebral bodies. Moreover, one of ordinary skill would know not to place Miskew's knife edge 78 on a hook for engaging spinal rods. The knife edge of Miskew would obviously penetrate a rod, placing a linear groove and weak spot in the rod. The rod would be more prone to unwanted bending or breakage at that weak point. Further, Allard's hooks are configured to allow for sliding along spinal rods to reach the desired location and orientation. As a knife edge on the interior of the hook surface would penetrate the rod, the rod and hook would be joined together, thus limiting the capability of the hook to slide along the spinal rod as desired by Allard.

As shown in the present response and considering Applicant's previous responses, the Allard / Assaker / Miskew combination does not show or suggest all of the elements of independent claims 1, 13 and 22 and thus these rejections should be withdrawn. Dependent claims 2-3, 5, 10-12, 14-16, 20, 21, 27, 28, 31 and 32 are also believed patentable over the combination based at least on their dependencies from independent claims 1, 13 and 22, and on their own merit as well. For example, dependent claims 10, 19, 20 and 27 recite that the apparatuses are formed as one-piece units. In addressing this feature, the Examiner states that the Allard device is formed as a one-piece unit when it is assembled. (Final Office Action, pgs.

3 and 4). Respectfully, this is an unreasonable interpretation of the term “one-piece.” Allard’s device is not a one-piece unit regardless of whether it is assembled or not. Allard’s assembly is composed of at least three different components, including rod sections 12 and 14 and locking screw 28, rendering the Allard device a three-piece unit rather than a one-piece unit.

Further, it would not have been obvious to one of ordinary skill in the art to convert any of the cited devices into one-piece units. All of the cited references include devices composed of multiple pieces or components. The multiple component designs allow for certain adjustment capabilities that would clearly be eliminated if the cited devices were formed as one-piece units. As an example, the integration of the Allard components into a one-piece unit would eliminate Allard’s telescoping feature. The telescoping ability of Allard’s device is a central feature of that invention. Further, the Assaker and Miskew devices are also designed to provide adjustability of their respective components. That adjustability necessarily requires movement of at least one component relative to another, which relative movement a one-piece unit cannot provide. Accordingly, as forming any of the cited devices as one-piece units would clearly change their principles of operation, it would not occur to one of ordinary skill in the art to make such severe changes to the devices and there would be no desire to do so. Applicant respectfully asserts that dependent claims 10, 19, 20 and 27 are patentable over the cited references and requests that these rejections be withdrawn.

As another example, dependent claims 31 and 32 recite that the axial distance between the first and second hooks is permanent and non-adjustable. Regarding this feature, the Examiner states that it would have been obvious to form the Allard device, as modified by Assaker and Miskew, as an integral structure having a fixed distance between the hooks. Citing to the *Howard v. Detroit Stove Works* case (150 U.S. 164 (1893)), the Examiner states that

forming an article in one piece which has formerly been formed in two pieces and put together involves only routine skill in the art. (Office Action, Page 6). However, that analysis overlooks the adjustability feature of the cited devices. As stated above, Allard teaches components that telescopically extend. Additionally, there are numerous discussions in the Assaker specification of the ability to adjust the relative position of the two hooks (see Abstract; col. 2, lines 5-8; col. 6, lines 1-5 and 33-34, etc.). Further, Miskew discusses the importance of its hooks pivoting with respect to the carriers, to provide more secure hooking to vertebrae of a patient with scoliosis. (Miskew, col. 6, ll. 50-53; col. 7, ll. 48-55). Applicant respectfully asserts that if any of the devices were formed as one-piece units, the telescoping, adjustability and/or pivoting features on which the devices rely would be lost and thus important features of the references would be eliminated. Accordingly, even assuming *arguendo* that only ordinary skill is needed to form an article in one piece which has formerly been formed in two pieces, the cited references lead the person of ordinary skill in the art away from using ordinary skill in that way. For at least these reasons, Applicant respectfully asserts that dependent claims 31 and 32 are patentable over the cited references. Applicant respectfully asserts that dependent claims 2-3, 5, 10-12, 14-16, 20, 21, 27, 28, 31 and 32 are patentable over the cited references. Accordingly, Applicant respectfully requests that these rejections be withdrawn.

**II. Claims 4, 6-9 and 17-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,275,600 to Allard et al., in view of U.S. Patent No. 5,620,444 to Assaker, in view of U.S. Patent No. 4,274,401 to Miskew, in view of U.S. Patent No. 5,980,523 to Jackson.**

Dependent claims 4, 6-9 and 17-19 are believed to be patentable based on their dependency from independent claims 1 and 13, and on their own merit as well. As an example,

dependent claim 4 recites a planar shaft. The Examiner states that it would have been obvious to substitute Allard's shaft with a planar shaft as taught by Jackson "in order to achieve the predictable result of connecting two oppositely situated hooks." (Final Office Action, pg. 7). Respectfully, the asserted motivation is not understood as the Allard device already provides for oppositely situated hooks (see Allard's Fig. 4). Further, modifying Allard to include a planar shaft would eliminate the relative rotational movement of Allard's components. As Allard is currently designed, the rod sections 12 and 14 are cylindrical and able to axially rotate with respect to each other to reach the desired orientation of the hooks. (Allard, col. 3, ll. 19-22). If Allard's rod sections were planar, such axial rotation would not be possible, and the rod sections would only be engageable with each other at a few selected orientations. For at least these reasons, Applicant believes dependent claim 4 to be patentable over the asserted combination.

As another example, dependent claim 19 recites that the first hook, the second hook, and the shaft are formed as a *one-piece* unit. As discussed above, the Allard, Assaker and Miskew references, considered alone or in combination, do not teach or suggest a one-piece unit. The addition of the Jackson reference does not provide any teaching or suggestion of this feature. The Jackson device is configured and designed to allow for adjustability to accommodate differences in distances between spinal rods (see col. 6, lines 45-48). This adjustability is accomplished by slidingly advancing the link 53 within the bore 13 (see col. 6, lines 32-41). Forming the Jackson device as a one-piece unit would destroy the adjustability of the device. Accordingly, the references do not render dependent claim 19 unpatentable. Applicant respectfully asserts that dependent claims 4, 6-9 and 17-19 are patentable over the Allard / Assaker / Miskew / Jackson combination, and requests that these rejections be withdrawn.

**III. Claims 23, 24, 29 and 30 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,275,600 to Allard et al., in view of U.S. Patent No. 5,620,444 to Assaker, in view of U.S. Patent No. 4,274,401 to Miskew, in view of U.S. Patent No. 6,217,578 to Crozet et al.**

Claims 23, 24, 29 and 30 have been cancelled without prejudice to their consideration in a continuing application. Accordingly, the above amendments render these rejections moot and Applicant respectfully requests that they be withdrawn.

**IV. Claims 25 and 26 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,275,600 to Allard et al., in view of U.S. Patent No. 5,620,444 to Assaker, in view of U.S. Patent No. 4,274,401 to Miskew, in view of U.S. Patent No. 6,217,578 to Crozet et al., in view of U.S. Patent No. 5,980,523 to Jackson.**

Claims 25 and 26 have been cancelled without prejudice to their consideration in a continuing application. Accordingly, the above amendments render these rejections moot and Applicant respectfully requests that they be withdrawn.

**V. Conclusion**

It should be understood that the above amendments and remarks are not intended to provide an exhaustive basis for patentability or concede the basis for the rejections in the Office Action, but are simply provided to address the rejections made in the Office Action in the most expedient fashion.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance, and the Examiner is requested to pass the case to issue. If the

Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the undersigned representative by telephone.

Respectfully submitted,

By Marta L. Paul  
Marta L. Paul, Reg. No. 57,256  
Woodard, Emhardt, Moriarty, McNett & Henry LLP  
111 Monument Circle, Suite 3700  
Indianapolis, Indiana 46204-5137  
(317) 634-3456

508007